Docket No.: 09852/0200879-US0 Application No.: 10/777,469

PENDING CLAIMS

Listing of Claims:

Claim 1 (original): A method of forming a Si-containing thin film, which comprises a step of forming a film using an organic Si-containing compound having a Si-Si bond represented by the following formula (1):

$$\begin{array}{c|c} (R^{2})_{2}N & & N(R^{2})_{2} \\ (R^{1}) - S & i - S & i - (R^{1}) & & \dots \end{array}$$

$$(R^{2})_{2}N & N(R^{2})_{2}$$

wherein R¹ represents a hydrogen or a methyl group, and R² represents a methyl group, an ethyl group, a propyl group or a tertiary butyl group.

Claim 2 (original): The method of forming a Si-containing thin film according to claim 1, wherein the film forming method is one of a chemical vapor deposition method and a liquid phase epitaxy method.

Claim 3 (original): The method of forming a Si-containing thin film according to claim 2. wherein the chemical vapor deposition method is a thermal chemical vapor deposition method.

Claim 4 (original): The method of forming a Si-containing thin film according to claim 1, wherein the Si-containing thin film formed is at least one selected from a Si₃N₄ thin film, a SiO₂ thin film, and a Hf-O-Si thin film.

Claim 5 (original): The method of forming a Si-containing thin film according to claim 2, comprising steps of vaporizing the organic Si-containing compound, thermally decomposing the vaporized organic Si-containing compound and allowing the decomposed organic Si-containing compound to react with one of NH3 gas and O2 gas.

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Claim 6 (original): The method of forming a Si-containing thin film according to claim 2, comprising steps of vaporizing the organic Si-containing compound and an organic hafnium compound, thermally decomposing the vaporized organic Si-containing compound and the vaporized organic hafnium compound, and allowing the decomposed compounds to react with O₂ gas.

Claim 7 (original): The method of forming a Si-containing thin film according to claim 1, wherein the formed Si-containing thin film does not contain Cl.

Claim 8 (original): The method of forming a Si-containing thin film according to claim 1, wherein forming the film is conducted at a temperature not greater than 700°C.

Claim 9 (original): The method of forming a Si-containing thin film according to claim 1, wherein the film forming is performed in 5 minutes or less.

Claim 10 (original): The method of forming a Si-containing thin film according to claim 1, wherein the thickness of the Si-containing thin film is 50 nm or less.